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(54) Title: FUNCTIONALISATION OF STENTS WITH LIPASES

(57) Abstract: The invention relates to intravascular stents comprising in its inner surface an enzyme capable of catabolizing cholesterol and lipids, such as lipase, or cells that have been genetically modified to produce said enzyme, and to their use in the frame of the treatment or prevention of obstructive arteriosclerotic lesions in the coronary and peripheral blood vessels, or prevention of restenosis in intra coronaric stents.



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INTERNATIONAL SEARCH REPORT

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PCT/EP 03/50680

A. CLASSIFICATION OF SUBJECT MATTER

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, MEDLINE, EMBASE, BIOSIS, CHEM ABS Data, SCISEARCH

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/16386 A (SCIMED LIFE SYSTEMS INC) 8 April 1999 (1999-04-08) abstract page 3, line 1 - line 7	1-6
X	WO 94/21308 A (CEDARS SINAI MEDICAL CENTER) 29 September 1994 (1994-09-29) page 5, line 15 - line 23 page 6, line 15 - line 20	1-6
X	US 5 383 928 A (HARKER LAURENCE A ET AL) 24 January 1995 (1995-01-24) abstract column 5, line 54 - line 57	1-6
-/-		

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 99/09912 A (TECHNION RES & DEV FOUNDATION ;DINNAR URI (IL); FRIEDMAN MARK M (I) 4 March 1999 (1999-03-04) abstract	1-11
A	US 6 010 573 A (BOWLIN GARY L) 4 January 2000 (2000-01-04) abstract	1-11

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/50680

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9916386	A	08-04-1999	US 5972027 A	26-10-1999
			WO 9916386 A1	08-04-1999
			US 6253443 B1	03-07-2001
			US 2001029660 A1	18-10-2001
WO 9421308	A	29-09-1994	EP 0689465 A1	03-01-1996
			JP 8507715 T	20-08-1996
			WO 9421308 A1	29-09-1994
			US 5562922 A	08-10-1996
			US 5900246 A	04-05-1999
US 5383928	A	24-01-1995	NONE	
WO 9909912	A	04-03-1999	AU 8700798 A	16-03-1999
			EP 1045676 A1	25-10-2000
			WO 9909912 A1	04-03-1999
			US 2002182750 A1	05-12-2002
US 6010573	A	04-01-2000	AU 4839699 A	24-01-2000
			CA 2335189 A1	13-01-2000
			EP 1092009 A1	18-04-2001
			JP 2002519053 T	02-07-2002
			WO 0001795 A1	13-01-2000